What is claimed is:

1. A flat panel display device comprising:

a first panel having a plurality of electron beam sources which are arranged in a matrix array, the electron beam sources being constituted of cathodes which emit electrons and control electrodes which are electrically insulated from the cathodes and control a quantity of electrons emitted from the cathodes, and a plurality of cathode lines and a plurality of control electrode lines which, in a state that the cathodes and the control electrodes which constitute respective electron beam sources are respectively separated into a plurality of sets, electrically connect the cathodes and the control electrodes for the respective sets, and making the electron beam sources designated by respectively selecting some of the cathode lines and the control electrode lines emit electrons, and

a second panel having phosphors which emit light upon receiving the electrons emitted from the electron beam sources corresponding to the arrangement of the electron beam sources, wherein

the cathodes and the control electrodes are arranged on the first panel such that out of a flat cross-sectional plane which is parallel to the second panel, a cross-sectional plane which is brought into contact with the cathodes and the control electrodes is present and, further, a cross-sectional plane which includes the control electrode lines differs from the

cross-sectional plane which is brought into contact with the cathodes and the control electrodes.

2. A flat panel display device according to claim 1, wherein on a straight line which connects an arbitrary point on the cathode and a point in an portion of the control electrode closest to the point on the cathode, an insulation material is present.

3. A flat panel display device according to claim 1, wherein the flat panel display device includes partition walls each of which has one end thereof brought into contact with a second-panel-side surface of the control electrode and another end thereof erected in the direction toward the second panel.

4. A flat panel display device according to claim 3, wherein portions of surfaces of the partition walls include conductive films having a lower electric resistance than other portions on the surfaces of the partition walls, and the plurality of control electrodes are electrically connected to each other through the conductive films.

5. A flat panel display device according to claim 3, wherein at least portions of another ends of the partition walls are brought into contact with the second panel and the conductivity is established between the portions which are brought into contact with the second panel and one ends of the partition walls which are brought into contact with the control electrodes.

6. A flat panel display device according to claim 1, wherein the cathodes include an electron emission material which directly emits electrons in a vacuum and the electron emission material contains carbon as a main component.

7. A flat panel display device according to claim 6, wherein the main component of the electron emission material is one selected from a group consisting of carbon nanotubes, micro carbon fibers, diamond, diamond-like carbon.